



MODULE 3

WORKSTATION CONFIGURATION - FIRMWARE



Workstation Configuration - Firmware

OBJECTIVES

Students will be able to:

- Understand CMOS Configuration
- Utilize Configuration Files
- Understand the Computer BIOS



Workstation Configuration - Firmware CMOS

Complimentary Metal Oxide Semiconductor

- Setup Program
- Typically stores info about the following:
 - date and time
 - floppy disks,
 - video type,
 - hard disks
 - memory installed



Workstation Configuration - Firmware CMOS

- Possible Problems that can cause CMOS to be reset to zero or become corrupt.
 - Loose or Faulty Connections
 - Dead Battery



Workstation Configuration - Firmware HARDWARE PROBLEMS

- Hardware fails to initialize.
 - Check things like:
 - SCSI Termination
 - BIOS
 - IRQ Conflicts



Workstation Configuration - Firmware CONFIGURATION FILES

- Windows 95, 98, NT uses
 - IO.Sys
 - Registry
- Older Operating Systems used
 - Autoexec.bat
 - Config.sys



Workstation Configuration - Firmware CONFIGURATION FILES

Autoexec.bat

- Tells computer what to do at startup.
- Batch file filled with commands that can be entered from the the command prompt.
- Equivalent default setting created in IO.sys or



Workstation Configuration - Firmware

@ECHO OFF

Setting up sound card

SET BLASTER=A220 I7 D1 H5 P330 T6

C:\PROGRA~1\CREATIVE\SBLIVE\DOSDRV\SBEI
NIT.COM

REM [Header]

Installing CD drives

REM [CD-ROM Drive] *REM allows to
"remark" out statements and to add
comments to your files.*

C:\WINDOWS\COMMAND\MSCDEX.EXE

/D:MSCD001



Workstation Configuration - Firmware CONFIGURATION FILES

Config.sys

- Text file filled with instructions for your computer
- Mostly drivers for your system.
- Can also contain parameters for location of those drivers.



Workstation Configuration - Firmware

DEVICE=C:\WINDOWS\HIMEM.SYS

DEVICE=C:\WINDOWS\EMM386.EXE

REM [Header]

Setting up the CD ROM drive.

REM [CD-ROM Drive]

DEVICE=C:\CDROM\HIT-DVD.SYS /D:MSCD001

DEVICE=C:\DOS\HIMEM.SYS

DOS=HIGH

DEVICE=c:\windows\setver.exe

[COMMON]

DEVICE=C:\DELL\RTC.CLK +R



Workstation Configuration - Firmware

BIOS (BASIC INPUT OUTPUT SYSTEM)

- Central Nervous System of computer.
- Works in background to determine how the information is moved in and out of diskettes, keyboards or memory.
- Code written into ROM or EPROM chips on motherboard.
- Can sometimes be upgraded.



Workstation Configuration - Firmware BIOS ROM SHADOWING

- Shadowing refers to technique of copying BIOS code for slower ROM chips to faster RAM chips during boot up.
- Video Bios Shadowing is usually set in CMOS and is usually enabled.



Workstation Configuration - Firmware UPGRADING BIOS

- Older systems usually soldered directly to motherboard or in removable sockets.
 - Find old chip and replace it.
- Today's systems come with BIOS that can be upgraded through software called Flash Bios.
 - Called "flashing the BIOS"



Workstation Configuration - Firmware

Summary

Review Questions